



STOP THE TOXIC SHOWER

A CALL TO BAN AERIAL SPRAYING

20 Reasons to Ban Aerial Spraying in Davao



- 1) All pesticides are hazardous since they are made of chemicals designed to kill or inhibit the growth of an organism considered as pest by humans but they can kill humans too. All banned pesticides today were once claimed as safe when they first came out.
- 2) According to the National Research Council in the US, only 10% of pesticides in common use have been adequately assessed for hazards¹. We do not know the long-term effects of most of them. Pesticides are like time bombs killing a lot of people. In fact according to the World Health Organization and United Nations Environment Programme, as many as 25 million people are seriously poisoned by pesticides every year.²
- 3) The chemical identities of many of the inert ingredients, which make up 80-90% by weight of a pesticide, have not been made known to the general public because they are classified as business trade secrets. The US Environment Protection Agency (EPA) is now evaluating these inert ingredients and it has labeled 100 of them "of known or potential toxicological concern".³ Some are suspected carcinogens; others have been linked to central nervous system disorders, liver and kidney damage, birth defects, and some short-term health effects.⁴
- 4) Stephan Muller and Thomas Bucheli of the Swiss Federal Institute for Environmental Science showed in their research that pesticides could also evaporate and become absorbed into clouds. The highest concentrations of such pollutants are found in the first rainfall after long dry periods.⁵ Some people still get water from rain for drinking and other household use.
- 5) Only 1-2% of the sprayed chemicals actually reach the target pests.⁶ And the US National Research Council characterizes the amount of aerial drift as "considerable"— from 5% under optimal-low wind conditions to 60% under more typical conditions⁷.
- 6) In virtually every study available and reviewed in the Journal of Pesticide Reform (16 articles), pesticides were detected as far away from the area of application as samples were taken. "a predictable percentage of spray will transport potentially as far as 2 or more miles from the treatment site" according to a 1994 report from the US-EPA Ecological Effects Branch⁸.
- 7) Drift can contaminate open/exposed bodies of water such as river, wetlands and springs where people get drinking water. Spray drifts also contaminate the roofs of houses within and adjacent to plantation areas thereby endangering more the health of those still dependent on rainwater.
- 8) Most fungicides are very toxic to aquatic life such as fish, frogs and some aquatic invertebrates thereby adversely affecting aquatic biodiversity.⁹
- 9) Some of the fungicides used by banana plantations are banned in other countries like tridemorph, it is banned in UK because it can cause birth defects. It is not registered in the US, Canada, Denmark, Finland, Netherlands, Portugal, New Zealand, Uganda, Tanzania, Nigeria, Madagascar, Gambia, Chad, Cape Verde, Cameroon and Burkina Faso¹⁰. Another fungicide still used in Davao is Chlorothalonil, which the Chiquita banana company in 1988 voluntarily took off from their approved list because of worker safety concerns and its toxicity to aquatic life. It is banned in Sweden and not registered in Netherlands.¹¹
- 10) Although mancozeb, the most commonly used fungicide during aerial spraying is not considered highly toxic in acute exposure, it is a probable human carcinogen, meaning there is sufficient documentation of the carcinogenic potential in animal studies. It is also listed as a cancer-causing chemical by the California's Office of Health Hazard Assessment under

¹ Steingraber, 1997 as cited by Jill Gay in Feminism, Environmental Justice, Toxic Dumps and Pesticides www.cwpe.org/issues/environment.html/gay.html May 20, 2005

² G. Tyler Miller, 1996. Living in the Environment. 9th Edition. Wadsworth Publishing Company: USA.

³ G. Tyler Miller, 1996.

⁴ <http://www.ehhi.org/reports/lcpesticides/>; data were taken from the Attorney General's Office of New York; EHHI means Environment and Human Health Inc.

⁵ Further evidence that chemical crop sprays cause adverse health effects by Paul Mitchell (17 April 1999) www.wsws.org/articles/1999/apr1999/pest-a17.html May 20, 2005

⁶ U.S. Congress Office of Technology Assessment 1990. Beneath the Bottom Line: Agricultural Approaches to Reduce Agrichemical Contamination of Groundwater. Report No. OTA-418. Washington D.C.: U.S. Government Printing Office. www.seacc.org May 18, 2005; G. Tyler Miller, 1996.

⁷ National Research Council Board on Agriculture. Committee on Long-Range Soil and Water Conservation. 1993. Soil and Water Quality: An Agenda for Agriculture. Washington DC: National Academy Press pp 323-324. www.seacc.org May 18, 2005

⁸ Cited in www.seacc.org May 18, 2005

⁹ Extoxnet.orst.edu/index.html; http://www.uaex.edu/Other_Areas/publications/PDF/UAPB/FSA-7532.pdf#search=%22fungicides%20effects%20on%20aquatic%20organisms%22

¹⁰ Tridemorph has been identified as potential endocrine disruptor by Germany's Federal Environment Agency because of concerns over its effect on mammalian ovaries. The US publication Pest Line reported "embryoethality". Cleft palate, and other anomalies and maternal toxicity were reported in a study of pregnant rats and mice. www.pan-uk.org/pestnews/actives/tridemor.htm In 1990

¹¹ Pesticides News No. 48 June 2000; www.pan-uk.org; In a 24-month mouse oncogenicity study, chlorothalonil produced tumors in renal cortical tubules and squamous tissue of the stomach. The study demonstrate that chlorothalonil may have oncogenic potential. In another study, a 3-generation rat reproduction study, reproductive effects were observed.

Proposition 65. Mancozeb is converted into ETU or ethylenethiourea as degradation product or metabolite. It is an acknowledged thyroid toxin, known to cause birth defects and tumors. Experimental evidence shows mancozeb may cause mutations in chromosomes. In a reproductive toxicity test, pituitary abnormalities, thyroid and kidney problems were observed. Thus, mancozeb is considered endocrine disruptor, skin sensitizers, causing allergic and contact dermatitis in humans.¹² It is not registered in Chad, Gambia, Burkina Faso, Nigeria; restricted in Sweden and banned in Libya.¹³

- 11) Results of the study by Dr. Panganiban (National Poison Management and Control Center) and Dr. Maramba (College of Medicine, UP Manila), et al., showed that a) there is a significant difference in the blood ETU levels among workers who are directly exposed, indirectly exposed and non-exposed to ethylene bisdithiocarbamates such as Mancozeb; b) more exposed workers have abnormal thyroid compared to the non-exposed or organic workers; and c) the higher the blood ETU level the bigger the size of the thyroid nodules.¹⁴
- 12) In California where pesticide illness reporting is more complete than in other states or in other countries like the Philippines, over 350 illnesses and injuries were reported as a result of drift in 1991.¹⁵
- 13) A 2004 Comprehensive Review of Pesticide Research by the Ontario College of Family Physicians (OCFP) highlights link between pesticide exposure and serious illnesses and diseases with children as particularly vulnerable. Thus, allowing aerial spraying in Mandug, Tigatto, Tamayong, Subasta, Sirib, Dacudao, and Manuel Guianga is tantamount to directly spraying toxins to people living within and adjacent to banana plantations in these areas.
- 14) There is no proper buffer zones where aerial spraying is carried out. Buffer zones are important to protect communities and water sources such as springs and rivers. Without a properly planted buzzer zone, people and water sources will continue to be exposed to the hazards of pesticide drifts.
- 15) There is still a need to collect more and better data on the ecological and health effects of a mixture of pesticides that are being sprayed by plantations. Current registration and regulation system is based on exposure to a single pesticide and scientists to date have no effective and affordable way to study the effects of multiple exposures to various pesticides.
- 16) Banning aerial spray would be one example of a pollution prevention or Precautionary Principle. The Precautionary Principle is still the best way to protect human health and the environment. Given the toxic and hazardous nature of pesticides, they have the inherent characteristics to harm. Therefore following the precautionary principle and taking the side of caution, it is just right to ban aerial spraying of pesticides to be safe than be sorry later.
- 17) There is no national law governing aerial application of pesticides. Regulating aerial spray is not enough and hard to monitor considering that the Fertilizer and Pesticide Authority has only 3 staff for the entire Region XI.
- 18) It is not true that prohibiting aerial spray will kill the banana industry. A model example is the province of Bukidnon where there are also plantations of banana and pineapple and not one company is practicing aerial spray yet they continue to earn profits as evidenced by their continued operation.¹⁶ There is also no aerial spraying in Baguio District, Davao City where different banana plantations are also operating.
- 19) The call to ban aerial spraying of pesticides is a worldwide trend – in Ecuador, Alaska, Maine (USA), Victoria (Canada), New Zealand, India and some countries in Europe.¹⁷
- 20) Aerial spraying of pesticides is banned in some countries. Total ban exist currently in Denmark, Estonia, Slovenia, with partial bans in Italy, Cyprus, Austria and Belgium.¹⁸

The US EPA defines spray drift as the physical movement of a pesticide through the air at the time of application or soon thereafter, to any site other than that intended for application (often referred to as off target).



¹² The Hungarian National Institute of Food Hygiene and Nutrition conducted a toxicological study of the effects of the ethylene-bisdithiocarbamate-containing fungicide Dithane M-45 (with 80% mancozeb content) using male Wistar rats; Brief toxicological profiles of 6 pesticides of priority concern by Romeo F. Quijano, M.D. Professor Department of Pharmacology and Toxicology, College of Medicine, UP Manila.

¹³ www.pan-uk.org

¹⁴ Panganiban L, Maramba NC, et al. Correlation between Blood Ethylenethiourea and Thyroid Gland Disorders among Banana Plantation Workers in the Philippines. *Environmental Health Perspectives*. 2004; 112(1): 42-45.

¹⁵ Cox, Cc. 1995 Pesticide Drift. *Journal of Pesticide Incident Reform* 15(1):2-7, as cited in www.seacc.org May 18, 2005

¹⁶ In September 2001 Bukidnon passed an ordinance banning aerial spraying of pesticides in the entire province of Bukidnon

¹⁷ <http://www.pan-europe.info/newsletter/news21.shtml>; www.scoop.co.nz; http://mofga.org/news20060403_a.html; www.seacc.org/Take Action/PesticidesComments.htm; <http://www.powerlink.net/FEN/oden.htm>; <http://environmentmaine.org/envmaine.asp?id=16942&id3=EM&id4=EMFS&>

¹⁸ www.pan-europe.org

Children on the way to school while aerial spraying is on-going in
Subasta, Calinan District – June 2006

September 2006

Pesticide poisoning victims cry for justice, during a rally in-front of Davao
City Hall – August 29, 2006.